

# FACTS

## about Western Red Cedar

Western Red Cedar, from which one of the most decay-resistant species of lumber in America is produced, is a slow-growing, long-lived tree found in the Pacific Northwest and inland to the western slopes of the Rocky Mountains. In its strictly coastal growth area, it is the largest of all the cedars.

It was discovered by Louis Nee, a botanist accompanying the Spanish explorer, Malaspina, on his voyage

around the world, at Nootka Sound on the north Pacific coast about 1794. The first discovery in what is now known as the Western Pine Region was probably made in 1832 or 1833. Nathaniel Wyeth is credited as the first American collector to secure botanical specimens of Western Red Cedar in that region.

The total Western Red Cedar sawtimber stand in the Western Pine Region, which covers 12 western states east of the Cascade and California Coast mountains, is approximately four billion (4,000,000,000) board feet, most of it in eastern Washington, northern Idaho and eastern Oregon with a trace in northern California and western Montana. Post-war lumber production averages approximately 20 million (20,000,000) board feet annually. Western Red Cedar is manufactured into lumber for many building purposes and into poles and ties. In the Western Pine Region it is known as one of the Associated Woods of the Western Pines and is generally available in mixed cars together with an assortment of the pines and other Associated Species.

### BOTANICAL CLASSIFICATION

Western Red Cedar is known botanically as *Thuja plicata*. In the Western Pine Region, mature trees are from 80 to 140 feet tall, from two to five feet in diameter and from 200 to 500 years old. Exceptional trees in moister climates reach a height of more than 200 feet and diameters up to 16 feet at an age of 1000 years or more.

The mature Western Red Cedar tree has a characteristic buttressed base with a flaring trunk and conical crown. Growing infrequently in pure stands, it is generally found intermingled with Idaho White Pine, Ponderosa Pine, Douglas Fir, White Fir, Larch and Engelmann Spruce in the inland, Western Pine area at altitudes from 2000 to 7000 feet.

Foliage on Western Red Cedar, a coniferous species, consists of minute, overlapping, yellow-green, scale-like leaves which are arranged in one plane to form flat sprays. The small leaves remain on the trees about three years. Bark is thin and various shades of grayish-brown in color. In texture and appearance it is rather stringy and fibrous and may be separated into long thin strips on the younger trees.

Cones are small and leather-brown in color. Seeds are very small, numbering 495,000 per pound, and the



Western Red Cedar trees are easily distinguishable in the forest because of their stringy, fibrous bark and buttressed bases. In the Western Pine Region, Red Cedar grows intermingled with other species.





High durability, ability to take and hold paint, good nailing qualities and light weight of Western Red Cedar lead to its popularity for siding.

thin gauzy wings attached on two sides carry them long distances in the wind. They are produced in partial crops every three or four years and very abundantly at longer intervals.

## PROPERTIES

Western Red Cedar lumber is completely non-resinous. The narrow sapwood, usually less than one inch wide, is almost pure white; the heartwood varies from a dark reddish-brown to light yellow. Both yellow and brown heartwood frequently occur in the same tree and the yellow portion is sometimes mistaken for sapwood. Cells are small and regularly arranged and the grain is close, uniform and straight. Annual rings are clearly defined by a definite band of summerwood.

Wood of Western Red Cedar has a strongly aromatic or spicy odor and taste characteristic of all the cedars. One of the lightest of the commercially important softwoods, it weighs 23 pounds per cubic foot and has a specific gravity of .33 at 12 per cent moisture content.

Its predominating feature among all commonly used softwoods is its extreme resistance to decay, even under decay-fostering conditions. And it suffers little when exposed to weather without protective covering. Weathering changes its color to a slight driftwood gray with a silvery sheen.

Western Red Cedar takes paint, stains or varnishes readily and grips them firmly. Rated by the Forest Products Laboratory in the first of three groups in workability with hand tools, it also machines easily to a smooth, silken surface. In glueability, it is classed in Group I as a wood that will "glue easily with different glues under a wide range of gluing conditions."

Dimensional stability is another outstanding characteristic of Western Red Cedar. Dried from a green state down to 12 to 15 per cent moisture content, it

will shrink only 3.8 per cent by volume—at the extreme lower end of the 3.4–6.3 softwood range. Stability and durability properties account for its widespread popularity for siding, shingles and other exterior uses.

Western Red Cedar takes nails easily if care is exercised in nail selection; blunt-pointed fasteners are recommended. Its nail-holding ability is good in relation to its light weight.

The insulation value of wood is well known and widely exercised in sheathing, siding, floor and roof decking and other building uses. Western Red Cedar's "K factor" (thermal conductivity in British thermal units per hour) is just .72—close to the bottom of the .66–.99 range in the softwoods—making it one of the finest wood insulators.

Although the heartwood of Western Red Cedar usually requires no preservative against decay, poles manufactured from the species are commonly butt-treated to forestall deterioration of the sapwood which lacks durability in all species in contact with the ground. Western Red Cedar sapwood is easily penetrated by standard commercial preservatives.

## USES

A large proportion of Western Red Cedar trees is converted to poles but the greatest percentage of production is into general purpose lumber for residential construction.

Of the lumber production, upper grade Commons lead in volume with some Selects, Dimension and Shop lumber available. Most of the clear lumber, however, is run to bevel siding or manufactured into shingles and shakes. Western Red Cedar lumber is available from Western Pine Region mills in specified widths from 4" to 12" and in specified and random widths 12" and wider. Lengths run from 6' to 20'. It is usually produced in 1" thicknesses.





## Siding

Exceptional decay resistance of Western Red Cedar, its high dimensional stability and low thermal conductivity are accountable for the immense popularity of Red Cedar siding. Good nailing qualities and light weight, leading to ease of handling on the job, speed construction time and cut installation costs.

Easily paintable over its smooth, silky surface, it may be finished in stain or paint treatments of any color, shade or tone. Western Red Cedar siding is manufactured in a wide variety of patterns to suit any architectural demand and is especially popular for log cabin siding. It is regarded by carpenters, contractors, architects, dealers and home owners as one of the nation's premier siding materials.

## Sheathing and Subflooring

Insulation qualities and resistance to decay are important factors in the selection of large quantities of Western Red Cedar for sheathing and subflooring, where moisture frequently gathers as a result of condensation of interior moisture or from the ground in basementless homes.

Workability and dimensional stability are additional properties which insure flat, straight subfloors and sheathing. No. 3 and No. 4 Common grades are particularly recommended for those hidden members of construction for they furnish ample strength for the purposes involved.

Western Red Cedar is also manufactured into Dimension for use as studs, plates, posts, headers, fire stops and miscellaneous bracing throughout residential construction.

## Paneling and Interior Finish

The trend toward wood paneling—whether for one wall, two walls, or an entire room—finds one of its



One of the best natural wood insulators, Western Red Cedar is used extensively for paneling. Its affinity for fine finishes and its high dimensional stability are added reasons.

finest mediums of expression in Western Red Cedar. In either its clear or knotty grades, Red Cedar, due to its exceptional dimensional stability, high insulation factor, and its beautiful color and grain, is liked by architects and builders throughout the United States. And carpenters like it, too, for its lightness and ease of working on the job.

Run smoothly and evenly to precise patterns in a vast array of styles, Western Red Cedar paneling may be installed to convey exactly any interior decoration theme from early American to modern. It is particularly adaptable to modern treatment for it may be tinted with paints or stains to any shade in the many-hued spectrum of present styles.

Paneling of Western Red Cedar may be applied vertically or horizontally as complete wall covering or as wainscoting or trim. Matching mouldings, casing and baseboards are available, too, in Red Cedar.

## Miscellaneous

The miscellaneous uses of Western Red Cedar—for exterior and interior purposes and for finish and utility products—are many and as varied as the remarkable versatility of the wood would suggest. Outdoor lawn furniture and garden trim such as lattice work, pickets, posts, arbors, pergolas, summer houses, etc., where exposure to the elements is severe and constant are ideal applications for Western Red Cedar. Interior finish uses include shelving, cedar chests, built-in furniture and cabinets, sash and other household fixtures.

Articles exposed to high humidity or moisture conditions such as in greenhouses, nursery flats, hotbeds, water troughs, feed troughs, irrigation flumes, and rain gutters demand the extreme decay resistance of Western Red Cedar as do mud sills, silo doors, fence posts, sluices, stop gates and dozens of other industrial and farm uses both large and small. Lower common grades



Knotty Western Red Cedar siding stained a russet brown is a favorite in many post-war homes. Its texture and knot distribution, coupled with its exceptional resistance to decay, make it ideal for unpainted finishes.





Western Red Cedar's exceptional resistance to decay under high humidity and moisture conditions makes it one of the few native American wood species inherently adaptable for greenhouse construction, troughs, rain gutters, nursery flats and other purposes where decay conditions are present.

are effective and economical for most miscellaneous purposes.

The light weight of Western Red Cedar suits it admirably for further fabrication into luggage stock, toy manufacture, core stock, theatre staging, furniture, etc. It is renowned as the finest native wood obtainable for boat building and the construction of floats and other marine structures.

### Poles

The natural tapering conformation of Western Red Cedar, its inherent decay resistance and light weight make the species the preferred material for poles the country over. And linemen like the softness of Western Red Cedar poles for safety's sake; their climbers penetrate more easily, reducing the danger of missteps.

Butt-treating is usually recommended for all poles to protect sapwood from decay.

### GRADING

Lumber manufactured from Western Red Cedar in the Western Pine Region is graded under current published grading rules of the Western Pine Association and is separated into Select, Common, Dimension and Factory (Shop) grades.

Select grades are three in number—B & Better Select, C Select and D Select—and they may be combined into a single grade of D Select & Better.

Common lumber includes five grades. Number 1 may contain all sound knotted stock with knots from one-half to two inches in diameter. Season checks, light stain or equivalent characteristics are also ad-

missible. Number 2 Common is subject to the same general inspection but admissible characteristics are more numerous, larger or more pronounced.

Number 3 Common retains a smooth appearance but characteristics are still more pronounced than in No. 2. A typical 1x12"-16' may show some 14 red and black knots from one to two inches in diameter, some season checks and skip in dressing. Number 4 Common may contain wane, knot holes, some skip in dressing and limited amount of rot. Number 5 is the lowest recognized grade and admits all defects known in lumber provided the piece is of usable size and quality.

The first three Common grades are sometimes combined and shipped as No. 3 & Better Common.

Dimension and Factory lumber is graded according to the rules for all species published by the Western Pine Association.

### DISTRIBUTION

Western Red Cedar lumber is distributed throughout the United States from Western Pine Region mills located in its growth region of eastern Washington, northern Idaho and eastern Oregon. It is generally available in mixed cars together with an assortment of the Western Pines and other Associated Woods. Western Red Cedar is available to the consumer at many retail lumber yards.

For list of Western Red Cedar lumber manufacturers, grading rules or further information, write to:

### WESTERN PINE ASSOCIATION

Yeon Building

Portland 4, Oregon



## WESTERN RED CEDAR

*One of the Associated Woods of the Western Pines*



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